

## ABSTRACT

A computer implemented method for interpreting faults from a fault-  
5 enhanced 3-D seismic attribute cube. The method includes the steps of extracting faults  
from a 3-D seismic attribute cube, and of calculating a minimum path value for each  
voxel of the 3-D seismic attribute cube. A fault network skeleton is extracted from the  
3-D seismic attribute cube by utilizing the minimum path values which correspond to  
voxels within the 3-D seismic attribute cube. The individual fault networks are then  
10 labeled, and a vector description of the fault network skeleton is created. The fault  
network skeleton is subdivided into individual fault patches wherein the individual fault  
patches are the smallest, non-intersecting, non-bifurcating patches that lie on only one  
geologic fault. The individual fault patches are then correlated into a representation of  
geologic faults.